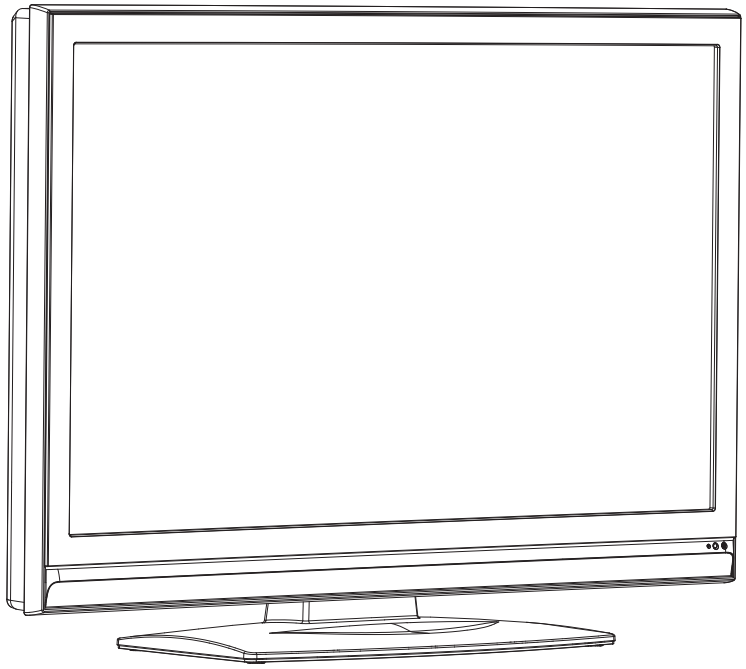
multiQ®

MultiQ Products AB
Industrigatan 14
SE-212 14 Malmö, Sweden

phone: +46 40 143500
fax: +46 40 143501
info@multiQ.se
www.multiQ.se

Users Guide

MultiQ 42P2



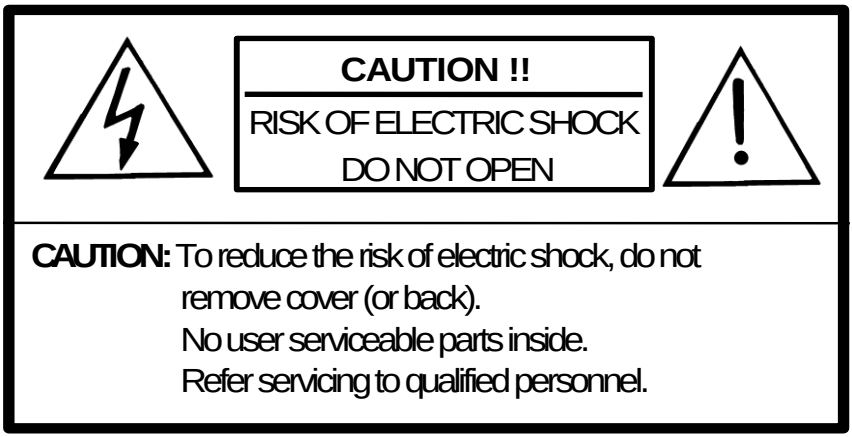
world wide service support:
www.multiQ.com
support@multiQ.se
phone: +46 40 143520

multiQ®

Table of Contents

1. Cautions and Warnings 2
2. Product Safety Precautions 3
3. Introduction 4
4. Overview 5
   4-1. Unpacking 5
   4-2. Front/Lateral Panel Controls 6
   4-3. Rear Panel Controls 7
   4-4. Remote Control Button 8
5. Hardware Installation 9
   5-1. Installation 9
   5-2. Video Input Pin Assignment 10
   5-3. Applicable Video Timing for Video Input 11
6. Screen Adjustment 13
   6-1. Screen Adjustment Operation Procedure 13
   6-2. Video Input Sources 15
   6-3. OSD Adjusting and Controls 16
   6-4. Advanced Functions 18
7. Troubleshooting Tips 19
8. Specification 20
9. Appendix 21

1. Cautions and Warnings


CAUTION !!
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: To reduce the risk of electric shock, do not
remove cover (or back).
No user serviceable parts inside.
Refer servicing to qualified personnel.

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS MONITOR TO RAIN OR MOISTURE.

"HIGH VOLTAGE EXISTS ON THE BACK LIGHT POWER LEAD OF THIS MONITOR. BEFORE SERVICING, DETERMINE THE PRESENCE OF HIGH VOLTAGE BY CONNECTING THE H.V. METER BETWEEN THE BACK LIGHT POWER LEAD AND CHASSIS ONLY."

WARNING: To prevent overturn when moving, transport the equipment on flat surface only. Do not put on unstable position.

2. Product Safety Precautions

Follow all warnings and instructions marked on the product.

- Do not use this product near water - e.g. near a bathtub, washbasin, swimming pool, kitchen, laundry tub or in a wet basement.
- This monitor should be installed on a solid horizontal base.
- When cleaning, use only a neutral detergent cleaner with a soft damp cloth. Do not spray with liquid or aerosol cleaners.
- Do not expose this monitor to direct sunlight or heat. Hot air may cause damage to the cabinet and other parts.
- Adequate ventilation must be maintained to ensure reliable and continued operation and to protect the monitor from overheating. Do not block ventilation slots and openings with objects or install the monitor in a place where ventilation may be hindered.
- Do not install this monitor near a motor or transformer where strong magnetism is generated. Images on the monitor will become distorted and the colour irregular.
- Do not allow metal pieces or objects of any kind to fall into the monitor through ventilation holes.
- Do not attempt to service this unit yourself. Removal of the monitor cover may expose you to dangerous voltage or other risks. Refer all servicing to qualified service personnel.

Unplug this product from the wall outlet and refer servicing to qualified service personnel in the event that:

- Liquid is spilled into the product or the product is exposed to rain or water.
- The product does not operate normally when the operating instructions are followed.
- The product has been dropped or the cabinet has been damaged.
- The product exhibits a distinct change in performance, indicating a need for service.
- Power cord or plug is damaged or frayed.

3. Introduction

Welcome to enjoy the fantastic world of LCD-monitors. This new technology will bring you a whole new feeling for your “monitor”. We show here some of the major advantages of the LCD monitor. You will most certainly find some other advantages when you use it.

- The character of low radiation and less flicker reduce the probability of harm for your health compared to traditional CRT monitor.
- The LCD monitor’s compact size requires only minimal desktop space. These two merits make it easy to use in almost any environment and easy to transport.
- The LCD monitor has a low power consumption and offers savings on power bills and the earth’s resources.
- The design of the LCD cabinet is both attractive and ergonomic.
- The usage of the LCD monitor is the same as the CRT monitor. There is no need to change the hardware of your computer, just plug and play.

4. Overview

This chapter will guide you through the correct installation procedures of your LCD monitor.

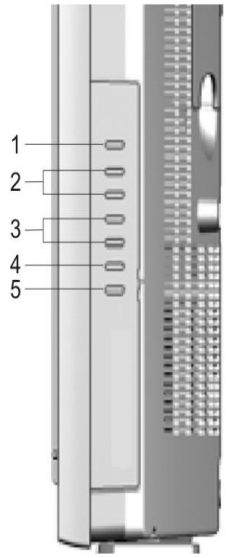
4-1. Unpacking

After you unpack your LCD Monitor, please make sure that the following items are included in the carton and in good condition. If you find that any of these items are damaged or missing, please contact your dealer immediately.

- One LCD Monitor
- AC power cord
- VGA cable
- DVI to HDMI cable (option)
- HDMI cable (option)
- This user manual
- Remote control
- Two Batteries
- Warranty folder

4. Overview

4-2. Front/Lateral Panel Controls



1. POWER button

Turns power on/off from standby mode, there is a wait period between on/off cycles.

2. Adjust buttons

Use these buttons to adjust value of selected item or change setting On Screen Display menu.

3. Select buttons

Use these buttons to navigate through the On Screen Display menu.

4. MENU button

Enters or exits the OSD (On Screen Display) menus. It also exits from the submenu back to the previous menu. This type of cancellation will not save the previous changes.

5. INPUT button

Use this button to switch between available inputs.

6. Power indicator

Solid green- Power on.

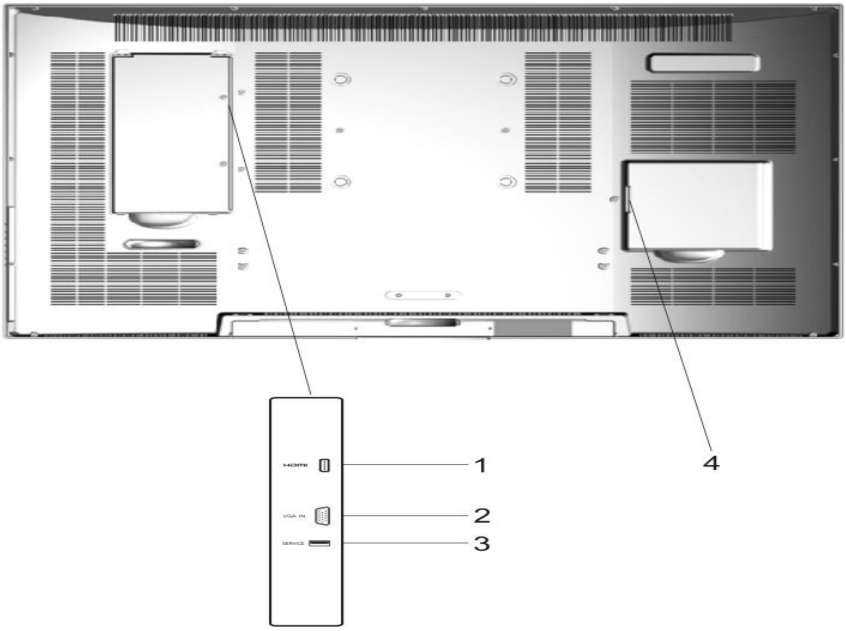
The LED will illuminate in orange color if the display is shut-off but the main power cord is plugged into the back of the monitor.

7. Remote control sensor

4. Overview

4-3. Rear Panel Controls

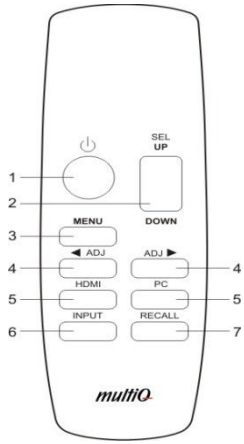
The following picture provides the connection outline.



1. **HDMI input**
   Connects to the digital video signals.
2. **VGA input**
   Connects to VGA input of computer
3. **SERVICE**
   USB port is provided for after service/engineering use ONLY.
4. **Power cord**

4. Overview

4-4. Remote Control Button



1. Standby power on/off

Push this button to turn on the display from Standby mode. Push it again to turn off to Standby mode.

2. SEL

Use SEL button up or down to navigate through the on screen display menu.

3. MENU

Engages the OSD menu.

4. ADJ

Use these buttons to adjust value of selected item or change setting On Screen Display menu

5. Direct input selection keys

Direct change input signal selection by pressing the appropriate key.

6. INPUT

Press to select input signal modes sequentially.

7. RECALL

Recalls default picture settings.

5. Hardware Installation

5-1. Installation

1. Power off both the Computer/equipment and Monitor before making any connections.

2. Install monitor on a solid surface such as a VESA metal.

3. Connect the power cable to the back of the LCD monitor.

4. The LCD monitor connection.
   a) Analog signal (D-sub 15 pin Cable):
      Connect the signal cable on the rear of the monitor to the 15-pin connector on the rear of the computer.

      Note: This LCD monitors DOES NOT require any special drivers. Necessary drivers are supplied by the graphics card manufacturer and may be found on the diskettes/CD supplied with the graphics card that came with your computer. Windows drivers for both the monitor and the graphics card are supplied on the Windows CD or diskettes. You may use the standard resolution 1920x1080@60 as the monitor type. The graphics card must also be set up correctly in Windows and make sure the video output of the graphics card is listed in Section 6.1 or check your Graphics card manual or Windows ReadMe file for further information on Graphics card. HDMI signal.

   b). HDMI signal
      Connect the HDMI connector from the back of the equipment to the HDMI connector located on the back of the display.
      If the external device has DVI output only, use a DVI to HDMI adapter cable to connector to the HDMI terminal.

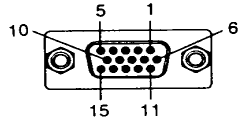
5. Switch on power to the PC system or equipment, then the LCD monitor.

5. Hardware Installation

5-2. Video Input Pin Assignment

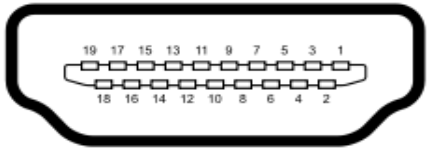
This section describes the pin assignments of the D-sub and HDMI connector.

1. 15 Pin D-sub Connector



Pin No.	Signal Connector	Pin No.	Signal Connector
1	Red Video Signal	9	5V
2	Green Video Signal	10	Ground
3	Blue Video Signal	11	NC
4	NC	12	DDC data
5	Ground	13	Horizontal sync signal
6	Ground for red video signal	14	Vertical sync signal
7	Ground for green video signal	15	DDC clock
8	Ground for blue video signal		

2. 19 Pin HDMI Connector



Pin No.	Signal Connector	Pin No.	Signal Connector
1	HDMI_RX2+	11	GND (For +5V)
2	GND (For +5V)	12	HDMI_RXC-
3	HDMI_RX2-	13	NC
4	HDMI_RX1+	14	NC
5	GND (For +5V)	15	RX5V DDC SCL
6	HDMI_RX1-	16	RX5V DDC SDAt
7	HDMI_RX0+	17	GND (For +5V)
8	GND (For +5V)	18	IN_5V
9	HDMI_RX0-	19	RX_HOTPLUG
10	HDMI_RXC+		

5. Hardware Installation

5-3. Applicable Video Timing for Video Input

The following table lists the supported display quality modes that the LCD monitor provides. If other video modes are used, the monitor will stop working or display unsatisfactory picture quality.

MQ42 series model

Mode	Resolution	Refresh Rate (Hz)	Horizontal	Vertical	Nominal Pixel Clock (MHz)
			Nominal Frequency +/- 0.5 kHz	Nominal Frequency +/- 1 Hz	
DOS	720*400	70	31.469	70.087	28.322
VGA	640*480	60	31.469	59.940	25.175
	640*480	72	37.861	72.809	31.500
	640*480	75	37.500	75.000	31.500
SVGA	800*600	56	35.156	56.250	36.000
	800*600	60	37.879	60.017	40.000
	800*600	72	48.077	72.188	50.000
	800*600	75	46.875	75.000	49.500
XGA	1024*768	60	48.363	60.004	65.000
	1024*768	70	56.476	70.069	75.000
	1024*768	75	60.023	75.029	78.750
XGA+	1152x864	75	67.500	75.000	108.000
SXGA	1280*1024	60	63.981	60.020	108.00
	1280*1024	75	79.976	75.025	135.00

5. Hardware Installation

Mode	Resolution	Refresh Rate (Hz)	Horizontal	Vertical	Nominal Pixel Clock (MHz)
			Nominal Frequency +/- 0.5 kHz	Nominal Frequency +/- 1 Hz	
	1360*768	60	47.712	60.015	85.500
@	720*480i	60	15.734	59.940	27.000
@	720*576i	50	15.625	50.000	13.500
@	720*480P	60	31.469	59.940	27.000
@	720*576P	50	31.250	50.000	27.000
@	1280*720P	50	37.500	50.000	74.250
	1280*720P	60	45.000	60.000	74.250
@	1920*1080i	50	28.125	50.000	74.250
@	1920*1080i	59	33.716	59.940	74.176
@	1920*1080i	60	33.750	60.000	74.250
@	1920*1080P	50	56.250	50.000	148.352
	1920*1080P	60	67.500	60.000	148.500

Notes:

1). This Display does not support Macintosh resolutions.
2). “@”: Only for HDMI

6. Screen Adjustment

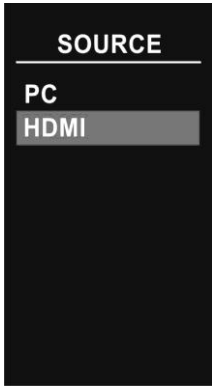
6-1. Screen Adjustment Operation Procedure

- **Using lateral panel or remote control to change INPUT sources.**

  1). Press the INPUT key on the panel or the remote control.

  2). Press the INPUT key will cycle the display through all available input signal sources.

  3). Or simply select the input that you would like to switch on the remote control.



- **Accessing the OSD menu via remote control or lateral panel.**

  1). To access the OSD menu, press “MENU” button on the lateral panel of monitor or press key on the remote control

  2). Navigation through the OSD menu can be accomplished using the arrow keys on the remote control.

  (Please refer to section 7)

- Various Picture adjustments can be set using the picture adjustment OSD menu

  1). Press the MENU key on the lateral panel or remote control.

  2). Various picture settings are available from the menu. Use the SEL keys to select the option that you wish to adjust and press ADJ keys to change or confirm selection.

  To restore picture settings to factory default, simply press the RECALL key from the remote control.

6. Screen Adjustment

- The on-screen status display shows detailed information regarding the operational status of the display. The status display automatically appears whenever there is a change in the status of the display such as input change. The status display will automatically disappear after a timeout period.

6. Screen Adjustment

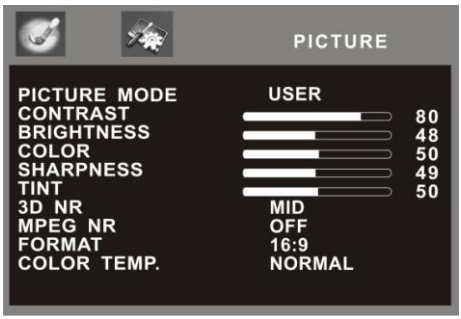
6-2. Video Input Sources

The following OSD main menu shows the OSD functions that are supported by different video input sources.

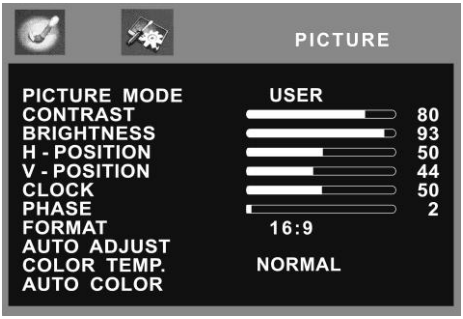
Please make sure which video source you are using, then select the correct functions in the MENU display.

Note: 1). H-position, V-position, Clock, Phase, Auto adjust and Auto color adjustments are only available in VGA input. Not available selections will be grayed out for DVI-D input.

2). Color Sharpness, Tint, 3D NR and MPEG NR adjustments are only available in HDMI input.



For HDMI input



For VGA/DVI-D input

Figure 6-1. OSD Main Menu

6. Screen Adjustment

6-3. OSD Adjusting and Controls

Explanation of each available picture control settings are listed in the below:

- **PICTURE MODE**
  There are four preset picture modes that you can choose from to optimize the video picture according to the type of programming you are watching: (1) USER (2) STANDARD (3) CINEMA (4) VIVID.
  Note: each mode has its own picture settings, when Picture Mode is set as STANSARD, CINEMA, and VIVID; the CONTRAST, BRIGHTNESS, COLOR, SHARPNESS are not adjustable.
- **CONTRAST**
  Adjust Contrast to increase the level of "white" in the video picture. Increasing contrast will make the white area of the video picture brighter..
- **BRIGHTNESS**
  Adjust brightness to enhance the level of dark area in the video picture. Increasing brightness will male dark areas more visible.
- **COLOR**
  Use color to adjust the color saturation of the picture. Increase color will make the color more intense, reducing color setting make the color less intense.
- **SHARPNESS**
  Use sharpness to adjust the amount of detail enhancement to the video picture. Increase the setting will enhance the edges of objects in the video picture, decreasing the setting will reduce enhancement.
- **TINT**
  Use it to adjust the color of fleshtone. Increasing color will make the picture with more red in appearance. Decreasing setting in left direction will shift the picture with more green in appearance
- **3D NR**
  To improve the quality of the picture in the case of poor reception. There are four settings to choose from; (1) OFF (2) LOW (3) MIDDLE (4) HIGH
- **MPEG NR**
  To reduce the noise of the video. There are three settings to choose from; (1) OFF (2) LOW (3) HIGH

6. Screen Adjustment

- **FORMAT**

  Use to change various screen with modes. There are two modes to choose from: (1) 16:9 (2) 4:3

  When the input source is HDMI and the resolution is one of below table, there are three modes to choose from: (1) 16:9 (DVD), (2) 16:9 (PC), (3) 4:3

720x480I@60Hz	1920x1080I@60Hz
720x480P@60Hz	1920x1080P@60Hz
1280x720P@60Hz	

  (1) 16:9 (DVD), the image on the screen is stretched to over the entire screen.

  (2) 16:9 (PC), the display is a widescreen image on the native 16:9 aspect ration screen

- **COLOR TEMP.**

  Configure the image color. There are three modes to choose from: (1) NORMAL (2) WARN (3) COOL

- **H-POSITION**

  H-Position is used to adjust the horizontal image position manually. Increase to shift the picture to right, decrease to shift the picture to the left.

- **V-POSITION**

  V-Position is used to adjust the vertical image position manually. Increase to shift the picture to up, decrease to shift the picture down.

- **CLOCK**

  Reduce vertical stripes in the screen image.

- **PHASE**

  Reduce horizontal stripes in the screen image.

- **AUTO ADJUST**

  The "Auto adjust" is used to perform automatic configuration of the Brightness, Contrast, Vertical & Horizontal Position, Pixel clock frequency, Video signal amplification and Tune.

  If you are still not satisfied with the picture quality, you could choose CONTRAST in the OSD Menu and adjust it. You can also manually adjust PHASE, CLOCK, etc. in the menu.

- **AUTO COLOR**

  It is used to adjust the gain and offset of the Red, Green and Blue channels on the ADC automatically.

6. Screen Adjustment

6-4. Advanced Functions

The “SYSTEM” menu provides the user with some functions regarding the menu language, menu timeout, menu background, backlight and software version.

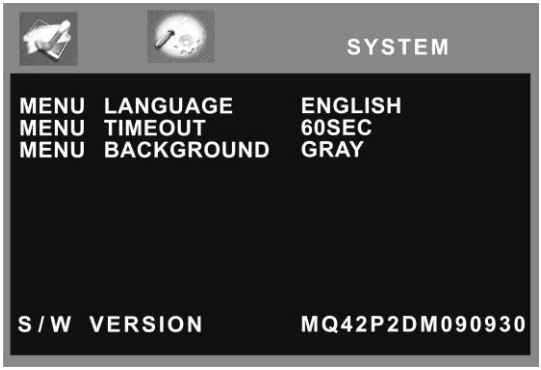


Figure 6-2. OSD-SYSTEM Menu

- **MENU LANGUAGE**
  Only English is available.
- **MENU TIMEOUT**
  It is used to set the timeout of the OSD menu. There are four options for the automatic timeout: 5, 10, 30 and 60 seconds.
- **MENU BACKGROUND**
  It is used to change the Menu background color, there are three background colors can be choice: GRAY, OPAQUE, CLEAR
- **S/W VERSION**
  The software version program into the MCU.

7. Troubleshooting Tips

In the event that you experience trouble with your Monitor, check the following items before contacting the dealer from whom the Monitor was purchased. The most common problems usually involve an incorrect connection from the Graphics card or equipment to the Monitor. Do not exceed the maximum refresh rate recommended for the monitor.

Problem	Troubleshooting Tip
No image on monitor screen?	1. Check that power cord of the Computer or device has been plugged securely into wall outlet. 2. Check that power switch of the Monitor has been pressed and LED on the front of the Monitor is lit. 3. Check that the video input from the Graphics card falls within the timing range (listed in the table of section 5) of the Monitor.
Abnormal image.	1. Check that the video input from the Graphics card falls within the timing range (listed in the table of section 5) of the Monitor. 2. Check that Video (Signal) or HDMI cable from the computer or device has been securely and correctly connected.
Colours of image on screen are abnormal	1. Check the signal cable has been securely property.
Image doesn't fill up the full size of the screen	1. Use the format options in the menu to select the size of the picture.
Disturbances on Screen	1. OSD adjustment is incorrect. Please consult section 6 for OSD screen adjustment procedures. 2. Check the signal cable has been securely property.
The remote control buttons don't work	1. Change the batteries. 2. Put the selection switch on the correct position.

8. Specification

	MQ42 series model	
LCD panel type	42.0”	
Resolution	1920 x1080 max.	
Pixel dimension	0.4845 mm (H) x 0.4845 mm (V)	
LCD monitor colour	16.7 M max.	
Manual control keys	POWER, MENU, INPUT, ADJ +, ADJ -, SEL +, SEL -.	
Viewing angle	H: + 89° ~ -89°. V: +89 ~ -89 °. (Typ.)	
Contrast ratio	4000:1 Typ.	
Brightness	450 cd/m^2 Typ.	
Response time	6.5 ms GTG (Typ.).	
Active display area	930.24 mm (H) x 523.26 mm (V)	
Power Source	Input voltage: AC 100 ~ 240 V, 50 / 60 Hz	
	Input current: 2.5 A (max)	
Input signal	VGA input: Type: TTL Level, 0.7 Vp-p. 75 ohms. Polarity: Positive/Negative, Separate Sync	HDMI input: Type: Digital. Polarity: Positive/Negative.
Input connector	15 Pin D-Sub.	19 Pin HDMI
Power management	VESA DPMS Compatible	
Regulation	CE	
Dimensions	1072.9 (W) x 748.9 (H) x 117.0 (D) mm	
Weight (Net)	24.2 kg	
Accessory	Power cord, VGA cable, DVI to HDMI cable (option).	
Temperature	Operation: 0 ~ 40 °C	
Transport & Storage	Ambient Temperature: -10 ~ 60 °C Humidity Range: 10 ~ 100 % Atmospheric Pressure: 500hPa ~ 1060hPa	
Plug & Play	DDC2B	

9. Appendix

- **Safety Guidelines**

CAUTION: The socket-outlet should be installed near the equipment and should be easily accessible.

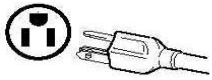
CAUTION: Use a power cable that is properly grounded. Always use the appropriate AC cord that is certified for the individual country. Some examples are listed below:

USA……...UL Switzerland…….SEV
Canada……..CSA Britain……..BASE/BS
Germany……VDE Japan…….Electric Appliance Control Act

IMPORTANT NOTICE CONCERNING POWER CORD SELECTION

The power cord set for this unit has been enclosed and been selected according to the country of destination and must be used to prevent electric shock. Use the following guidelines if it is necessary to replace the original cord set, or if the cord set is not enclosed. The female receptacle of the cord set must meet IEC-60320 requirements and may look like (Figure A1 below):

Figure A1

Figure A2 

FOR THE UNITED STATES AND CANADA

In the United States and Canada the male plug is a NEMA5-15 style (Figure A2), UL Listed, and CSA Labelled. For units that are mounted on a desk or table, type SVT or SJT cord sets may be used. Any equipment standing on the floor, only SJT type cord sets may be used. The cord set must be selected according to the current rating for your unit. Please consult the table below for the selection criteria for power cords used in the United States and Canada.

Code Type	Size of Conductors in Cord	Maximum Current Rating of Unit
SJT	18 AWG	10 Amps
	16 AWG	12 Amps
	14 AWG	12 Amps
SVT	18 AWG	10 Amps
	17 AWG	12 Amps

9. Appendix

FOR EUROPEAN COUNTRIES

In Europe you must use a cord set which is appropriate for the receptacles in your country. The cord set is HAR-Certified, and a special mark that will appear on the outer sheath, or on the insulation of one of the inner conductors.

AC PLUG CORD PRECAUTIONS FOR THE UNITED KINGDOM

For your safety please read the following text carefully.

- If the fitted moulded plug is unsuitable for the socket outlet then the plug should be cut off and disposed of safely.
- There is a danger of severe electrical shock if the cut off plug is inserted into an appropriate socket.
- If a new plug is to be fitted, please observe the wiring code as shown below.
- If in any doubt, please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE EARTHED.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

Green-and-Yellow: Earth	Blue: Neutral	Brown: Live

If the coloured wires of the mains lead of this appliance do not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the Earth symbol or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

If you have any questions concerning which proper power cord to use, please consult with the dealer from whom you have purchased the product.

CE Conformity for Europe

The device complies with the requirements of the ECC directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC Art.5 with regard to "Electromagnetic compatibility", and 73/23/EEC as amended by 93/68/EEC Art.13 with regard to "Safety".

9. Appendix

Safety Instructions

Type of protection (electrical): Class I equipment

Explanation of symbols

	Alternating current
	Direct current
	Protective earth (ground)
	Attention, consult ACCOMPANYING DOCUMENTS
	Dangerous voltage

Disposal

The lamp in this product contains mercury. For disposal, return to MultiQ or follow local governing ordinances or hospital procedure.

Cleaning

- **MAKE SURE THE LCD DISPLAY IS TURNED OFF.**
- **NEVER SPRAY OR POUR ANY LIQUID DIRECTLY ONTO THE SCREEN OR CASE.**

To clean the screen:

1. Wipe the screen with a clean, soft, line-free cloth. This removes dust and other particles.
2. If still not clear, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, line-free cloth, and wipe then screen.

To clean the case:

1. Use a soft, dry cloth.
2. If still not clean, apply a small amount of a non-ammonia, non-alcohol based, mild non-abrasive detergent onto a clean, soft, line-free cloth, and wipe the surface.